CLAIMS

[Claim(s)]
[Claim 1]A schedule management system using telephone characterized by what it is [a thing]
characterized by comprising the following.
A means which receives a user's audio signal transmitted via a telephone network from
telephone, and carries out speech recognition of this received voice signal.
A means to perform registration of this schedule information to a calendar which extracts
schedule information from said speech recognition result, and is stored in memory storage
corresponding to said user, or an update process, A means to notify schedule information
registered into said memory storage to said user by speech information or document information.

[Claim 2]. [whether said user is notified of schedule information registered into said memory
storage by audio signal or a facsimile transmission via a telephone network, and] Or a schedule
management system using the telephone according to claim 1 characterized by what it has a
means to transmit display screen information via an Internet network, or to notify said user by
transmission of an E-mail for.
[Claim 3]A schedule management system using telephone characterized by what it is [a thing]
characterized by comprising the following.
A voice recognition means which carries out speech recognition of a user's audio signal
transmitted via a mobile communications system from a mobile terminal.
A database which carries out storage and file management of said user's calendar, and a means
to perform registration of schedule information of said database, and an update process based
on said speech recognition result, A means to notify said user of said schedule information
according to setups defined beforehand corresponding to a demand from said user.

[Claim 4]A schedule management system using the telephone according to claim 3 characterized
by what it synthesized voice from said schedule information, and said mobile terminal or a
telephone terminal registered as a report destination to said user is equipped with a means to
notify with an audio signal for.
[Claim 5]A schedule management system using the telephone according to claim 3 or 4
characterized by what it has a means to transmit said schedule information by display screen
information via an Internet network, or to notify said user by transmission of an E-mail for.

DETAILED DESCRIPTION

[Detailed Description of the Invention]
[0001]
[Field of the Invention]Especially this invention relates to the system and method of performing
schedule registration with a sound, and management about a schedule management system and
a method.
[0002]
[Description of the Prior Art]In the Personal Digital Assistant (Personal Digital Assistants;PDA)
etc., the schedule management tool which manages the time of the scheduled day and schedule
work is used. However, the information machines and equipment of mobile types, such as PDA,
have restrictions of an input part having few small size and keys generally, in order to attain
small size and a weight saving, and alter operation nature is made into the sacrifice.
The input operation of a kana Chinese character sentence, etc. are complicated.
As for this, the same may be said of the case of a pen input.
[0003]For this reason, when a scheduled sudden change etc. occur, it is not necessarily easy to
change a calendar and they are a company, a place of business, etc. each time (for example,
care centers etc.), If renewal of a schedule is not appropriately made by making an employee (for
example, in charge of business), and employees (for example, helper etc.) carry a mobile terminal,
and updating the calendar of a database from this terminal when performing schedule
management, such as an employee and an employee, the mismatching of data will arise.
[0004]By the way, many voice input is also adopted as a user interface of information machines
and equipment. For example, in the communication environment using a mobile terminal, the
system which realizes database retrieval and a resource accessing function is proposed by
JP,10-133847,A, JP,10-177469,A, etc., using speech recognition technology as a user interface.
The audio signal inputted from the mobile terminal this conventional system A PHS network, It is
sent to a voice control host device via a mobile terminal-control host device and the Internet,
Recognize a received voice signal in a voice recognition part, and a retrieving keyword extracting
part from a speech recognition result. Extract a retrieval key word, reply to a mobile terminal,
choose a retrieval key word required at a mobile terminal as a selection keyword, reply to a voice
control host device, and a retrieval control section, Based on a selected retrieving keyword,
retrieval processing is performed to a database retrieval engine, Return the HTML (HyperText
Markup Language) text data of search results to a mobile terminal, display on a mobile terminal,
and a user, The hypertext on a search-results HTML text is chosen, and it enables it to access
the arbitrary resources on the Internet. This conventional system performs inputting-sound
database retrieval, and search-results information is displayed on a screen.
[0005]However, in this conventional system, it enables "to refer to the contents on the Internet"
with a sound from a terminal, and the applicable terminal is restricted to the mobile terminal
provided with the browser function.
[0006]
[Problem(s) to be Solved by the Invention]Therefore, this Object of the Invention is in providing
the system and method the voice input from a general telephone set, a public telephone, a
mobile terminal, etc. performs a user's schedule management.
[0007]
[Means for Solving the Problem]This invention which provides said The means for solving a

technical problem, A means which carries out speech recognition of a user's audio signal transmitted from telephone, and a means to perform registration of schedule information stored in memory storage corresponding to said user, and an update process based on a recognition result of said speech information, It has a means to notify said schedule information by speech information or display screen information to said user.

[0008]

[Embodiment of the Invention]The suitable embodiment of this invention is described. Drawing 1 is a figure showing typically the system configuration of the 1 embodiment of the system of this invention. If drawing 1 is referred to, the controlling device 20 which performs schedule management, The means which receives a user's audio signal transmitted via the telephone network 30 from the telephone 10, and carries out speech recognition of this received voice signal, A means to perform registration of the schedule information to the calendar which extracts schedule information based on said speech recognition result, and is stored in memory storage corresponding to said user, or an update process, Said schedule information registered into said memory storage to said user is notified by speech information or FAX (facsimile) transmission via the telephone network 30, or the reference from the terminal 50 notifies to the terminal 50 with display screen information or an E-mail. In drawing 1, the telephone 10 A general telephone set, a public telephone, or a portable telephone, It may be mobile terminals, such as a PHS (Personal Handyphone Sysytem) terminal, and the telephone network 30 may be a public telephone network (PSTN) or an ISDN network (integrated digital service network). The terminals 50 may be arbitrary information terminals, such as a personal computer provided with the function which accesses the Internet, As long as it is a mobile terminal possessing the function in which the telephone 10 accesses the contents of the Internet, such as i-mode of NTT DoCoMo, the terminal 50 of drawing 1 and the telephone 10 may be the same terminals. The schedule information which carries out voice input from the telephone 10, Commands, such as registration, change, an addition, and deletion, date information, corresponding schedule contents, etc., It is good also as composition which inputs a command and schedule contents in order according to the guidance from the controlling device 20, Or from the telephone 10, limit to the voice input of schedule information, such as registration and an addition, and correction and deletion work, The work of the voice input by telephone and the work by the terminal provided with the browser function may be suitably separated as the calendar of the controlling device 20 is accessed from the mobile terminal possessing the function which accesses the contents of the Internet, etc. and required correction is made. From the telephone 10, are in charge of the voice input of schedule information, such as an addition, Of course, the signal (PB signal) by dial entries, such as number buttons (key) and # sign, may be used together to selection of a command, and the check (check the contents of registration with the sound which the user inputted, and, in O.K., the depression of the numerical keypad "1" is carried out) of an input.

[0009]

[Example]One example of this invention is described that it should explain still in detail about the above-mentioned embodiment. Drawing 2 is a figure showing an example of the composition of the controlling device 20 shown in drawing 1. The controlling device 20 may be prepared for a communication enterprise (career) or the Internet access provider (provider) who provides the access point of an Internet connectivity, it may have it in a service acting agent, and an individual personal computer may be equipped with it. By installing the controlling device 20 of this example in the acting agent of schedule management, a customer's schedule management business is executed by proxy, and a new business model [say / performing the fee collection claim to vicarious execution] is made realizable.

[0010]If drawing 2 is referred to, the controlling device 20 which performs schedule management, The dialup control section 21, the authentication section 22, the voice recognition part 23, and the schedule information extraction part 24, The schedule-data Management Department 25 and the database 26 (database server), It has Internet interface 41, the scheduled output control section 27, the speech synthesis section 28, and the schedule information outputting part 29 that transmits display screen information or an E-mail to the terminal 50 via the Internet. Since a publicly known system is applied, accounting systems are not shown in drawing 2. As Internet interface 41, when the controlling device 20 is formed in the Internet access provider, it consists

of a router, a WWW server, or a mail server. For example, the user who wishes the schedule management using the controlling device 20 performs a member's new registration and setting out of this member's personal information in accessing the WWW server of the controlling device 20 from the terminal 50 (refer to drawing 1), and inputting required information.
[0011]The dialup control section 21 performs auto-answering processing of a mail arrival response, off-hook processing, etc. to the receipt from an origination side telephone, and performs connection establishment control of a voice call signal (voice call channel).
From the controlling device 20 side, in notifying schedule information to address telephone with a sound etc., it performs auto-dial dispatch control.

[0012]The authentication section 22 by a voice guidance, for example to a user to the user of telephone. It presses for the input of a membership number or a membership number, and a password, the membership number or password inputted by PB (push button) signal etc. is received from telephone, and it attests by referring for the contents of registration of an unillustrated user personal information database (member master file). When attestation is performed correctly, control which notifies a user of that by a voice guidance is performed. This attestation control has protected surreptitious use of schedule information, an alteration, etc.
[0013]The voice recognition part 23 carries out speech recognition of the schedule information which the user inputted from the telephone 10 (refer to drawing 1) after voice call connection, and extracts schedule information (keyword). As a keyword of a schedule, commands (registration, change, an addition, deletion, etc.), date information, and the information on schedules ((where), who and (with whom), and what are performed when and where about a meeting, a business trip, a promise, etc., for example (what)) (when) are extracted, for example.
[0014]In speech recognition, the voice recognition part 23, It has a standard pattern for the speech recognition of an unspecified speaker, and may be made to recognize by collation with the characteristic quantity of a telephone voice signal and the standard pattern which were received, or at the time of membership registration, a user may input a user's sound several times and may learn the sound of a specified speaker.
[0015]The schedule-data Management Department 25 controls database access.
Processing which creates the calendar which corresponds the schedule information extracted by the schedule information extraction part 24 according to a user's membership number (ID) is performed.

[0016]The contents of processing of data management consist of renewal of new registration, correction, an addition, change, deletion, etc., and retrieval processing.
[0017]A calendar is created by the database 26 in the table (table) of the group of time and a schedule. Creation of a calendar, search, etc. may be interfaced by SQL.
[0018]The scheduled output control section 27 The demand from the telephone 10, Or when it reaches before the predetermined time of schedule time, in response to the retrieval required which the Internet interface 41 (for example, WWW server) received, the database 26 is searched and the output of applicable schedule information is controlled. Among data management, a screen display of the calendar of the database 26 is carried out from a user's terminal (50 drawing 1's), and it may be made to perform correction, change, deletion, etc. from the Internet interface 41. The user can also receive the service it is automatically notified to a user that it is that call a portable telephone and the schedule time concerned is approaching for example, 1 hour, for example before the applicable time of a schedule by registering a schedule notification condition.
[0019]When notifying to a user's telephone by speech information, it synthesizes voice from schedule information (text information) by the speech synthesis section 28, and the compounded audio signal is notified to telephone via a telephone line from the dialup control section 21. On the other hand, when a user accesses via the Internet from the browser of a terminal (or portable telephone terminal), the schedule information outputting part 29 transmits the screen information of a calendar. The schedule information outputting part 29 may carry out transmitting mail of the schedule information to a terminal (the user registers the mail address etc. at the time of the membership registration which receives schedule management service). In

the scheduled output control section 27, it may be made to carry out FAX transmission of the image data of a calendar instead of voice synthesis from a telephone line.

[0020]Drawing 3 is a figure showing an example of the system configuration of one example of this invention. In this example, telephone lines, such as i-mode, j-phone (J-Sky), and a personal computer, or VoIP (Voice Over IP) is made available as a telephone terminal at the information terminal which has a voice input/output interface. A member's personal information (a name, age, sex, an address, a mail address, a membership number, a password, etc.) is registered into a member's master file. An individual, a group, or company schedule information is stored in a schedule database server.

[0021]The controlling device 200 performs renewal of a member, recognition, renewal of a schedule, calendar output, and attestation, and also performs a fee collection claim in exchange for the schedule management. Fee collection is performed, for example using publicly known electronic banking.

[0022]The speech recognition in the controlling device 200, data conversion, updating and recognition of a member master, registration of a calendar, renewal of deletion, the output to the terminal of a calendar, membership authentication, and fee collection control, The application group which processes exclusive use is started also as that of control of state machine (StateMachine)250, and is performed. Thereby, state control of each processing operation, such as registration of the member to a member master, a member's recognition, and this member's schedule management, is performed, for example. State machine (State Machine)250 is provided with the State chart controller 251 and the State chart service manager 252 who control transition of a state.

[0023]The transformer engine 210, It has html211, the WML/HTML transformer 212, the CHTML transformer 213, the MML transformer 214, the TTML transformer 215, and the VoxML (markup language for voice input/output control) transformer 216, With reference to the layout template 261, the display image to the variety-of-information terminals 101-106 corresponding to each markup language is controlled, and interface and signal transduction are performed between the XML (eXtended Markup Language) engines 220. The XML engine 220 performs data conversion, such as XML and HTML, and database access control by XSLT (XSL (Xtensible Stylesheet Language) Transfmations).

[0024]The external service manager (External Service Manager) 230 having the adapter 240 which performs an interface with an external website, Control between external websites is managed and conversion of XML and html is performed with reference to the WDL template 281. The database which manages a member master file, and the database server which carries out storage and file management of the calendar are good also as composition by which network connection is carried out to the controlling device 200.

[0025]

[Effect of the Invention]As explained above, according to this invention, while being able to perform registration of schedule information, updating, etc. with a sound from a telephone terminal, carrying out facilitating of the schedule input operation and simplifying the control of maintenance of schedule management, foundation of the agent business of schedule management is enabled.

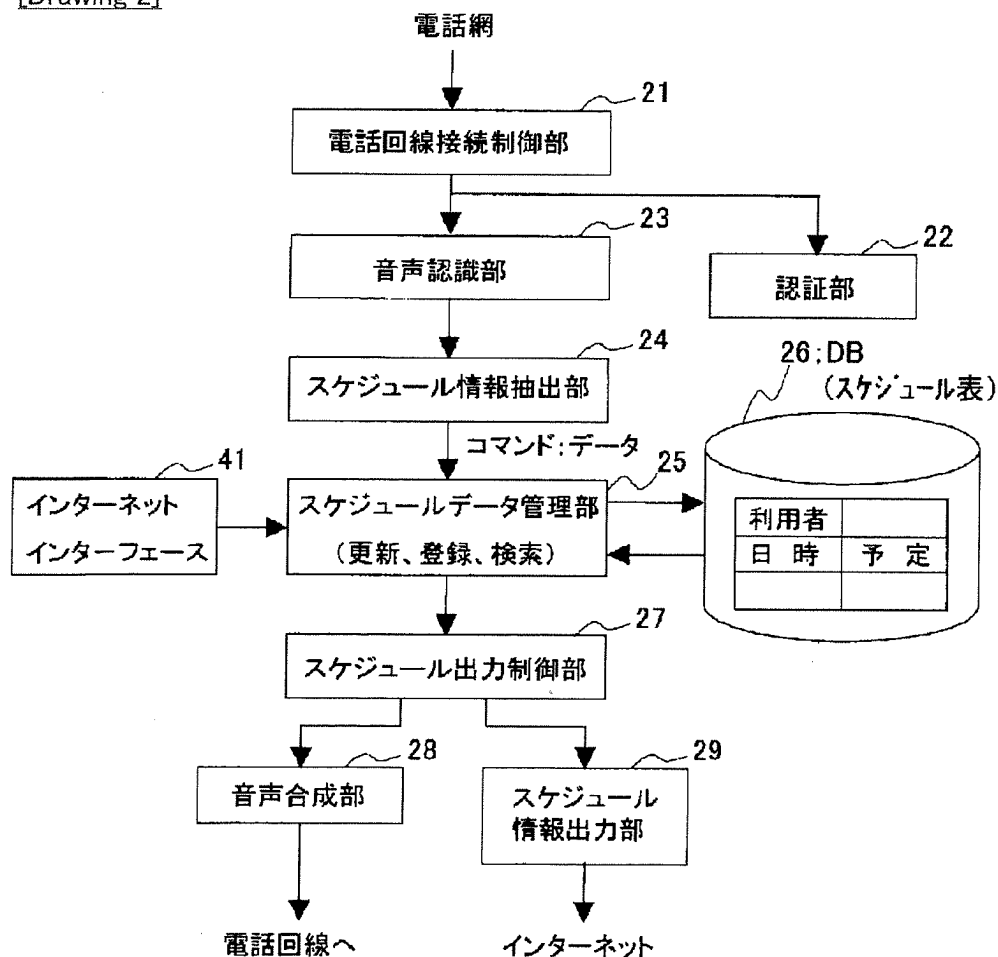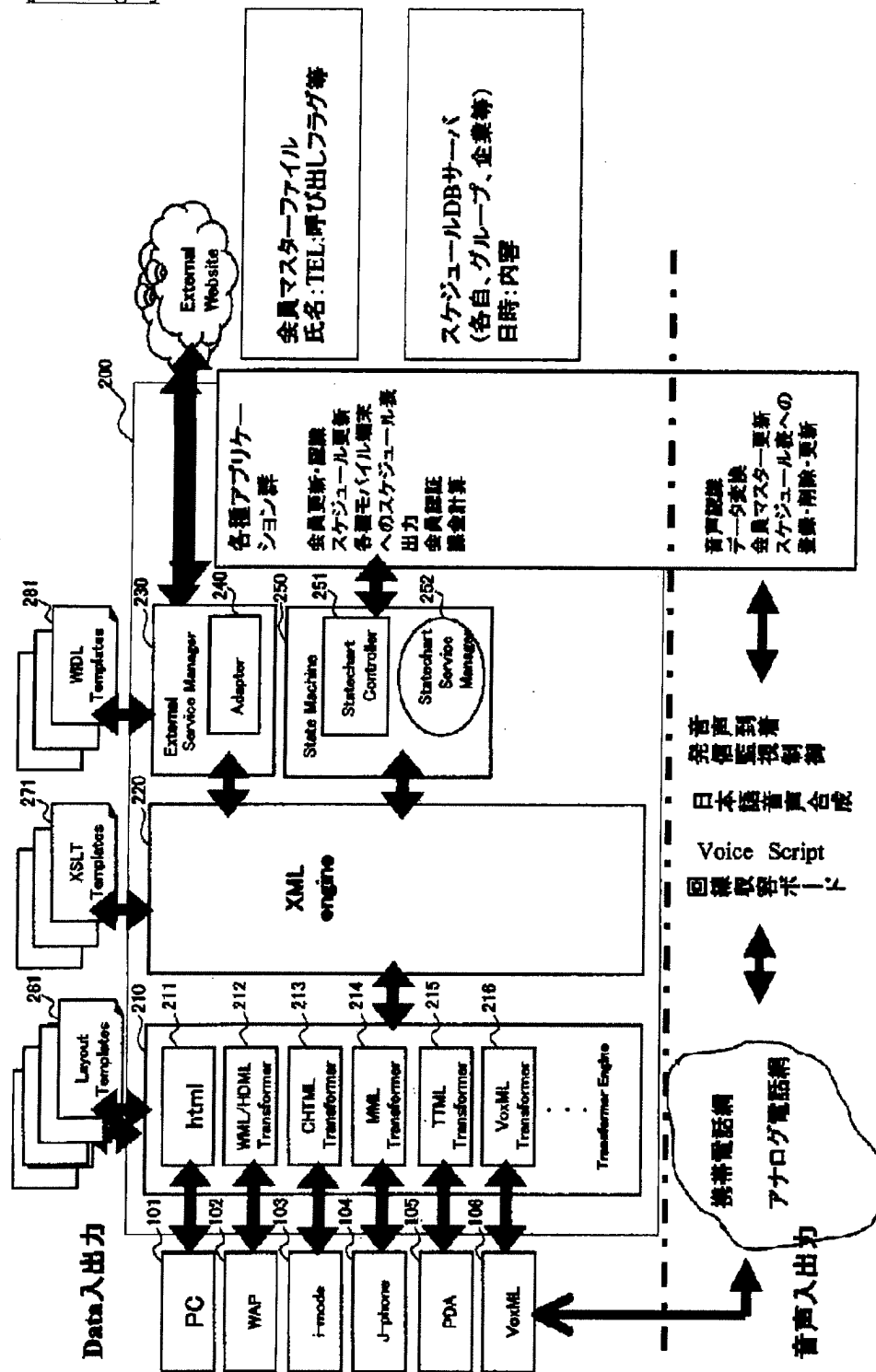[Translation done.]
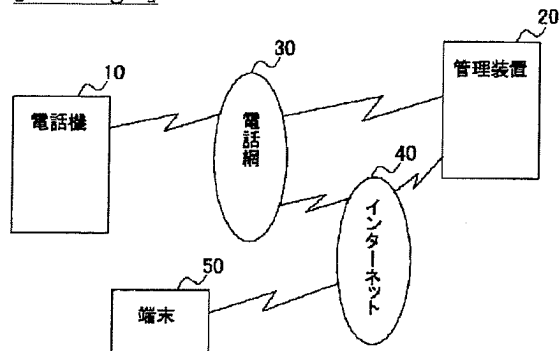
DRAWINGS

[Drawing 1]

[Drawing 2]

[Drawing 3]

[Translation done.]